

ABSTRACT

A method for separating gases within a barrier, and a metallic barrier separating the gases is provided for use in solid oxide fuel cells, or SOFC. A network of pores can vent steam formed within the barrier by the reaction of hydrogen diffusing from one side and oxygen diffusing from the other side. This venting prevents the buildup of destructive pressure within the barrier, while retaining the required gas separation and electrical conductivity properties. The invention can be applied to systems other than solid oxide fuel cells and includes barriers made of noble metals and non-noble metals.